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Art Unit: 1763

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AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. – 7. (Canceled)

8. (Previously Presented) A plasma processing apparatus comprising:

a vacuum processing chamber for processing a sample, including an insulator film, by using plasma;

an outer chamber connected with an evacuation means;

a gas supplying unit for introducing into the vacuum processing chamber a fluorine-containing processing gas;

an upper electrode and a lower electrode for generating plasma therebetween and providing the vacuum processing chamber;

an electrode cover comprised of silicon being provided at the outer surface of the upper electrode; and

a discharge confining means comprised of silicon for surrounding the vacuum processing chamber.

9. (Previously Presented) The plasma processing apparatus according to claim 8; the lower electrode having a sample mounting surface; said apparatus further comprising a susceptive cover comprised of silicon near the sample mounting surface.

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10. (Previously Presented) A plasma processing apparatus comprising:

- a vacuum processing chamber for processing a sample, including an insulator film, by using plasma;
- a gas supplying unit for introducing into the vacuum processing chamber a fluorine-containing processing gas;
- an upper electrode and a lower electrode for providing the vacuum processing chamber therebetween;
- a high frequency electric power source for supplying a high frequency energy for generating plasma between the upper electrode and the lower electrode;
- a bias electric power source connected to the lower electrode to control energy of ions in the plasma;
- an electrode cover comprised of silicon being provided at the outer surface of the upper electrode;
- a susceptive cover comprised of silicon being provided near a sample mounting surface of the lower electrode; and
- a discharge confining means comprised of silicon for surrounding the vacuum processing chamber;

wherein an inner surface of the vacuum processing chamber is substantially constituted by surfaces of silicon except for the sample mounting surface.

11. (Previously Presented) The plasma processing apparatus according to claim 10, further comprising an outer chamber located outside of the vacuum processing chamber and connected with an evacuation means.

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12. (Currently Amended) The plasma processing apparatus according to claim 10, wherein the discharge confining means includes at least a gap for evacuating the processing gas from the vacuum processing chamber to the outer chamber.

13. (Previously Presented) The plasma processing apparatus according to claim 8, wherein the discharge confining means is ring-shaped.

14. (Previously Presented) The plasma processing apparatus according to claim 9, wherein the discharge confining means is ring-shaped.

15. (Previously Presented) The plasma processing apparatus according to claim 10, wherein the discharge confining means is ring-shaped.

16. (Previously Presented) The plasma processing apparatus according to claim 8, wherein the discharge confining means is provided with at least a gap for evacuating the processing gas from the vacuum processing chamber to the outer chamber.

17. (Previously Presented) The plasma processing apparatus according to claim 9, wherein the discharge confining means is provided with at least a gap for evacuating the processing gas from the vacuum processing chamber to the outer chamber.

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18. (Previously Presented) The plasma processing apparatus according to claim 13, wherein the discharge confining means is provided with at least a gap for evacuating the processing gas from the vacuum processing chamber to the outer chamber.